UNITED STATES DISTRICT COURT DISTRICT OF NEW JERSEY

Document 33010-1

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IN RE: JOHNSON & JOHNSON TALCUM POWDER PRODUCTS MARKETING, SALES PRACTICES, AND PRODUCTS LIABILITY LITIGATION MDL No. 16-2738 (MAS)(RLS)

THIS DOCUMENT RELATES TO ALL CASES

THE PLAINTIFFS' STEERING COMMITTEE'S MEMORANDUM OF LAW IN SUPPORT OF ITS MOTION TO EXCLUDE THE OPINIONS OF DR. ANALISA DIFEO

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The PSC respectfully submits this motion to exclude portions of the testimony of the Johnson & Johnson Defendants' ("J&J") expert witness Dr. Analisa DiFeo, pursuant to Federal Rule of Evidence 104 (a), 702, 703 and 403.

I. INTRODUCTION AND SUMMARY

The causation opinions of Dr. DiFeo are based on speculation and flawed methodology concerning a biologically plausible mechanism and should be excluded.² First, Dr. DiFeo speculates that imaginary gene mutations, which none of the six bellwether plaintiffs ("Plaintiffs") have and which are not related to the development of ovarian cancer, are to blame for Plaintiffs' ovarian cancers. These opinions are based on pure speculation and thus must be excluded.

Second, Dr. DiFeo's opinions concerning biological plausibility are based on a flawed methodology because she fails to consider the actual constituents of talcum powder. Although Plaintiffs allege asbestos is in talcum powder, Dr. DiFeo pretends it does not exist. She deliberately ignores the evidence, literature and science on asbestos, and at best, cherry picks studies to support her conjecture disguised as legitimate conclusions.

The Johnson & Johnson Defendants includes Johnson & Johnson & Johnson Consumer Inc., n/k/a/ Johnson & Johnson Consumer Companies, Inc., LTL Management LLC, Johnson & Johnson Holdco (NA), Inc., Kenvue, Inc., and Janssen Pharmaceuticals, Inc.

Calhoun v. Yamaha Motor Corp., U.S.A., 350 F.3d 316, 321 (3d Cir. 2003) ("...the testimony must be reliable....'the expert's opinion must be based on the methods and procedures of science rather than on subjective belief or unsupported speculation...") (citations omitted). See also Schneider ex rel. Estate of Schneider v. Fried, 320 F.3d 396, 405 (3d Cir. 2003).

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Third, Dr. DiFeo's opinions on biological plausibility are based on an incorrect standard, requiring perfected proof of mechanism rather than simply a plausible mechanism as the science and law require.

Finally, as conceded in her deposition, Dr. DiFeo has not been called upon to provide case-specific opinions; thus, said opinions are not permissible.

II. LEGAL STANDARD

The PSC incorporates the legal standard set forth in The Plaintiffs' Steering Committee's Brief Regarding the Rule 702 Standard ("Rule 702 Standard Brief"), and supplements it as set forth herein.

III. OVERVIEW OF J&J'S DESIGNATED EXPERTS

Dr. DiFeo expert opinions include, in pertinent part: (1) that epidemiological data does not demonstrate genital talcum powder use increases the risk of ovarian cancer;³ (2) cosmetic talc, regardless of its exact constituents, does not cause or contribute to the development of ovarian cancer;⁴ and (3) there is no evidence talcum powder causes malignant transformation of epithelial cells.⁵ As set forth below, each of these opinions is unsupported and should not be allowed.

Expert Report of Analisa DiFeo, PhD (May 28, 2024) ("DiFeo Report") at 6, attached as **Exhibit 1**.

⁴ *Id.* at 6.

⁵ *Id.* at 6.

IV. DR. DIFEO PROVIDES UNSUPPORTED OPINIONS ON IMAGINARY GENETIC MUTATIONS

Dr. DiFeo theorizes that unknown genetic mutations, which science has not identified as being associated with ovarian cancer, may cause ovarian cancer. These opinions are speculative and must be excluded.

Dr. DiFeo agrees that there are known genetic mutations that can increase a woman's risk of getting epithelial ovarian cancer.⁶ She speculates that in the future, new mutations will be identified and associated with ovarian cancer that could be the cause of current ovarian cancers:

- There are at least 16 genes known to be involved in hereditary tumorigenesis. . . This list of genes, as well as mutations within these genes, is constantly evolving as there are mutations that remain unknown, have an unclear impact on cancer progression or cannot be detected by current tests. . . [G]ermline genetic testing and classifying cancer-causing mutations is an evolving field.⁷
- Beyond new hereditary mutations being introduced in genes we already know to be involved in hereditary ovarian cancer, new genes continue to be identified.⁸
- [We] don't have mutations and the known genes that predispose [women] to breast or ovarian cancer, and we're still trying to uncover those unknown genes.⁹

These representations rest on multiple layers of speculation. First, additional genes need to be identified as contributing to ovarian cancer. Second, the specific

⁶ *Id.* at 13.

⁷ *Id.* at 13-14.

⁸ *Id.* at 14.

⁹ DiFeo Dep. (June 28, 2024), at 71:22-72:3, attached as **Exhibit 2**.

subtype of ovarian cancer associated with the mutation needs to be identified.¹⁰ Third, Plaintiffs then would have to possess those mutations and the relevant cancer subtype. Suggesting to the jury that this speculative chain of events could happen and, by implication, cause Plaintiffs' cancers, is improper and conjecture.

Expert opinions must be based on facts and not "speculation or conjecture." Fedorczyk v. Caribbean Cruise Lines, 82 F.3d 69, 75 (3d Cir. 1996). "Daubert holds that an inquiry into the reliability of scientific evidence under Rule 702 requires a determination as to its scientific validity." In re Paoli R.R. Yard Pcb Litig., 35 F.3d 717, 742 (3d Cir. 1994); see also In re J&J Talcum Powder Prods. Mktg., Sales Practices & Profs. Litig., 509 F. Supp. 3d 116, 131 (D.N.J. 2020). Thus, an expert opinion "claiming a causal link" must be excluded if it is not based on existing scientific data. Hoefling v. U.S. Smokeless Tobacco Co., LLC, 576 F. Supp. 3d 262, 275 (E.D. Pa. 2021). 11

That this area of science is evolving does not make Dr. DiFeo's opinions admissible. Even in matters of "evolving" science, the court must exclude expert opinions that are "too speculative." *Henricksen v. Conoco Phillips Co.*, 605 F. Supp. 2d 1142, 1169 (E.D. Wash. 2009); *In re Bausch & Lomb Contacts Lens Solution*

See Dr. Kevin Holcomb's 2024 Expert Report at 6 ("It should be noted that even the hereditary syndromes are associated with distinct histologic types of EOC."), attached as **Exhibit 3**.

Gen. Elec., Co. v. Joiner, 522 U.S. 136, 146 (1997) ("[N]othing in either Daubert or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert.").

Prods. Liab. Litig., 693 F. Supp. 2d 515, 520 (D.S.C. 2010) ("speculation about future links between MoistureLoc and non-Fusarium infections is not sufficient"). The Federal Judicial Center explains: "Scientists may delay their decision while they or others gather more data. Judges, on the other hand, must rule on causation based on existing information...[A] judge does not have the option of suspending judgment until more information is available, but must decide after considering the best available science." See Federal Judicial Center, Reference Manual on Scientific Evidence (3d ed. 2011), at Preface xiv.

The science and testing to date demonstrate that Plaintiffs have no known genetic mutations that are associated with ovarian cancer. That is all Dr. DiFeo should be permitted to opine on regarding genetics. Anything more is speculation and lacks reliability.

In an effort to concoct support for her unfounded positions, Dr. DiFeo points to the existence of genetic "variants of unknown significance" (VUS), suggesting that the VUSs may be yet-to-be-identified genetic mutations that caused Plaintiffs' cancers.¹² The National Cancer Institute defines a VUS as "[a] change in a gene's DNA sequence that has an unknown significance on a person's health."¹³ It is not

DiFeo Report, Exhibit 1, at 13 ("though we may know some of the genes that predispose a woman to developing ovarian cancer, the exact mutations in those genes that cause cancer may not be clear; thus, they are referred to as variants of unknown significance (VUS).")

National Cancer Institution, NCI Dictionaries (available at https://www.cancer.gov/publications/dictionaries/cancer-terms/def/variant-of-uncertain-significance).

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known whether a VUS has any effect on cancer, let alone the types of ovarian cancer associated with the genital use of talcum powder. In addition, VUSs are rarely reclassified as deleterious. ¹⁴ Suggesting to the jury that genetic variants that have not been associated with ovarian cancer could be the cause of Plaintiffs' cancers is speculative and improper. ¹⁵

Additionally, these opinions mislead and prejudice the jury into believing association of Plaintiffs' ovarian cancers to an inherited genetic mutation is inevitable. ¹⁶ J&J's experts admit that most ovarian cancers are not associated with an inherited genetic mutation. Dr. DiFeo opined that only about 24% of ovarian cancers diagnosed have at least one predisposing germline mutation. ¹⁷ Of these, BRCA 1 and 2 are the most common. ¹⁸ It is noteworthy that none of the six

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Mighton et al. Variant classification changes over time in BRCA1 and BRCA2. Genetics in Medicine (2019) 21:2248–2254 ("Between 2012 and 2017, our laboratory has seen a clinically significant reclassification in a small number of cases. In this time period, only 0.3% (4/1209) of variants moved from inconclusive (likely pathogenic, VUS, and likely benign) to positive (pathogenic), and 0.08% (1/1209) moved from positive to inconclusive.", attached as **Exhibit 4**.

See Valadez v. Johnson & Johnson et al., Case No. 22CV012759 (May 4, 2023 Order)) (holding that compelling genetic testing is only appropriate "as to specific germline (inherited) genetic mutations where the moving defendant has presented evidence in the form of peer-reviewed medical literature to support a finding that a specific germline genetic mutation can be cause of mesothelioma independent of any alleged asbestos exposure"), attached as **Exhibit 5**.

Inherited genetic mutations, on which Dr. DiFeo opines, are something a person is born with. This is different than somatic or "acquired" mutations, which occur after birth, and result from events or exposures that cause the gene mutation. *See* The Second Amended Rule 26 Expert Report of Shawn Levy, PhD at 5, attached as **Exhibit 6**.

DiFeo Report, Exhibit 1, at 13.

¹⁸ *Id*.

bellwether plaintiffs have these genetic mutations.¹⁹

Importantly, not everyone with an inherited genetic mutation gets cancer. Dr. DiFeo agreed, "[t]he lifetime risk of developing ovarian cancer in BRCA1 carriers is 44% and 17% in BRCA 2 carriers." This means the majority of ovarian cancer diagnoses have no association with inherited genetic mutations, and those that do are related to pathogenic mutations Plaintiffs are confirmed to not have. To suggest to the jury that an inherited genetic mutation is likely to be identified in the future as the cause of Plaintiffs' cancers is misleading, speculative, and not based on the scientific data.

Accordingly, the Court should exclude the speculative opinions of Dr. DiFeo that suggest Plaintiffs' cancers are the result of imaginary, yet-to-be-identified genetic mutations.

V. DR. DIFEO'S OPINIONS ON BIOLOGICAL PLAUSIBILITY ARE BASED ON FLAWED METHODOLOGY

A. Dr. DiFeo Fails to Provide Opinions on the Known Constituents of Talcum Powder

Plaintiffs contend that J&J's talcum powder contains asbestos. In October 2019, the FDA found asbestos in a sample of J&J's Baby Powder, resulting in J&J

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See Dr. Cheryl Saenz's Newsome Report at 2, attached as Exhibit 7; Dr. Saenz's Judkins Report at 2, attached as Exhibit 8; Dr. Saenz's Converse Report at 2-3, attached as Exhibit 9; Dr. Saenz's Rausa Report at 3, attached as Exhibit 10; Dr. Michael Finan's June 26, 2024 Deposition at 64:22-65:10, attached as Exhibit 11.

DiFeo Report, Exhibit 1, at 13.

recalling 33,000 bottles of the product.²¹ Plaintiffs' experts also testify to the presence of asbestos in Johnson's Baby Powder and its relationship to ovarian cancer.²² Dr. DiFeo chooses to ignore the presence of asbestos when opining on biological plausibility, focusing only on mechanistic studies concerning tale rather

than studies that demonstrate that talc with asbestos is known to be genotoxic.²³

As the Court previously recognized, biological plausibility asks "whether the hypothesized causal link is credible in light of what is known from science and medicine about the human body and the potentially offending agent." *In re Johnson & Johnson Talcum Powder Prods. Mktg., Sales Practices & Prods. Litig.*, 509 F. Supp. 3d 116, 174 (D.N.J. 2020) (quoting *Milward v. Acuity Specialty Prods. Grp., Inc.*, 639 F.3d 11, 25 (1st Cir. 2011)). Dr. DiFeo ignores the "offending agent," which is talcum powder – a substance consisting of talc (both platy and fibrous), asbestos, and other constituents. She opines that cosmetic talc, regardless of its exact constituents, does not cause or contribute to the development of ovarian cancer, and that there is no evidence talcum powder causes malignant transformation of epithelial cells.

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Dyer, Owen. Johnson & Johnson Recalls its Baby Powder after FDA Finds Asbestos in Sample. BMJ (2019), attached as **Exhibit 12**

See Longo & Rigler 2nd Supp. Report (February 1, 2019); attached as **Exhibit 13** Longo 4th Supp. Report (November 17, 2023), attached as **Exhibit 14**; see also 3rd Amended Expert Report of Judith Wolf 2024 Report at 12, attached as **Exhibit 15**.

See International Agency for Research on Cancer (IARC), Volume 100C, Arsenic, Metals, Fibres and Dusts, at 288-291 (2012), attached as **Exhibit 16**.

Dr. DiFeo testified that she did not believe the literature regarding asbestos was relevant to her opinion.²⁴ She "did not look at the role of asbestos on ovarian cancer."25 Dr. DiFeo admits she conducted no research to investigate the issue of whether asbestos or other constituents of talcum powder cause cancer. Her opinions are based on her beliefs about the product as a whole, without regard to its constituents.

- [C]osmetic talc, regardless of its exact constituents or alleged contaminants, does not cause or contribute to the development of ovarian cancer.²⁶
- [R]egardless of the exact constituents and alleged contaminants, I want to specify in various forms of it, I did not see evidence that talc, in its various forms, contributed to ovarian cancer pathogenesis or development.²⁷
- A. ...[R]egardless of what was in the products, which I cannot speak to, what I saw was that it did not play a role in driving ovarian cancer pathogenesis or development...
 - Q. Do you know what the constituents of Johnson's Baby Powder and Shower to Shower are?
 - A. I think I answered that question. I told you, to me, it wasn't about the constituents, it was about looking at all the articles that utilize various forms of talc with whatever constituents were in the talc and assessing whether talc in all of its forms and the constituents that were in it played a role in ovarian cancer. And what I found was, there was no evidence in all of the literature I

²⁴ DiFeo Dep., Exhibit 2, at 35:6-12.

²⁵ Id. at 36:19-20.

²⁶ DiFeo Report, Exhibit 1, at 6; DiFeo Dep., Exhibit 2, at 41.

²⁷ DiFeo Dep., Exhibit 2, at 42:1-5.

read that it had a mechanistic impact or functional impact on the transformation or pathogenesis

of ovarian cancer....

Q. And the question was, do you know the constituents of Johnson's Baby Powder and Shower to Shower?

THE WITNESS: I don't work for Johnson & Johnson. I don't know exactly what's in their products.²⁸

• Q. ...If Johnson's Baby Powder and Shower to Shower contained asbestos and talc fibers, would that influence your opinions in this case at all?

A. No. Because -- I think I mentioned it before. If it did, then the experiments that were run using the Johnson & Johnson Baby Powder and individuals believe that that had contributed to ovarian cancer, then we would have seen different results in the studies that were performed using the Johnson & Johnson Baby Powder. However, in the studies that I analyzed that were performed using Johnson & Johnson Baby Powder, I didn't -- there was no evidence that that baby powder contributed or had a functional role on ovarian cancer pathogenesis.²⁹

Dr. DiFeo ignores asbestos because it "is one of the most potent carcinogens known," with all forms being carcinogenic. 30 IARC concluded that asbestos and talc containing asbestiform fibers cause ovarian cancer and "consumer products (e.g., cosmetics, pharmaceuticals) are the primary source of exposure to talc for the general population. Inhalation and dermal contact (i.e., through perineal application

²⁸ *Id.* at 44:6-45:19.

²⁹ Id. at 47:18-48:6.

Wolf 2024 Report, Exhibit 15, at 12; 3rd Amended Report of Daniel Clarke-Pearson, MD (2024), at 8, attached as **Exhibit 17**.

of talcum powders) are the primary routes of exposure."³¹

By ignoring asbestos and focusing solely on talc, one component of talcum powder, Dr. DiFeo is engaging in impermissible cherry-picking. The cherry-picking of data and facts "does not reflect scientific knowledge, is not derived by scientific method and is not 'good science.'"32 "[A]ny theory that fails to explain information that otherwise would tend to cast doubt on that theory is inherently suspect," and "courts have excluded expert testimony" where the expert selectively chose his support from the scientific landscape"33 as Dr. DiFeo has chosen to do here with regard to biological plausibility. It "is hardly scientific." ³⁴ It is "inherently

IARC 2012, Exhibit 16, at 232. It is noteworthy that IARC recently classified talc, even without asbestos, as "probably carcinogenic to humans (Group 2A) based on a combination of "limited" evidence for cancer in humans, "sufficient" evidence for cancer in experimental animals, and "strong" mechanistic evidence in human primary cells and experimental systems." Stayner L et al., IARC Working Group, The Carcinogenicity of talc and acrylonitrile, The Lancet Oncology, July 5, 2024, attached as Exhibit 18.

In re Bextra and Celebrex Marketing Sales Practices and Product Liability Litigation, 524 F. Supp. 2d at 1176; In re Zoloft (Sertraline Hydrochloride) Prod. Liab. Litig., 858 F.3d 787, 796– 800 (3d Cir. 2017) ("An expert's opinion may be unreliable if he fails to account for contrary scientific literature and instead 'selectively chooses his support from the scientific landscape.'"); Eghnayem v. Bos. Sci. Corp., 57 F. Supp. 3d 658, 676 (S.D.W. Va. 2014) "[I]f the relevant scientific literature contains evidence tending to refute the expert's theory and the expert does not acknowledge or account for that evidence, the expert's opinion is unreliable.") Pooshs v. Phillip Morris USA, Inc., 287 F.R.D. 543, 546 (N.D. Cal. 2012) ("A methodology may not be reliable if an expert fails to address and exclude alternative explanations for the data on which he bases his findings or rejects studies reporting contrary empirical findings."); Abarca v. Franklin Ctv. Water Dist., 761 F. Supp. 2d 1007, 1066 n.60 (E.D. Cal. 2011) ("A scientist might well pick data from many different sources to serve as circumstantial evidence for a particular hypothesis, but a reliable expert would not ignore contrary data, misstate the findings of others, make sweeping statements without support, and cite papers that do not provide the support asserted." (internal citations omitted)).

³³ *In re Rezulin Prod. Liab. Litig.*, 369 F. Supp. 2d 398, 425 (S.D.N.Y. 2005).

³⁴ Lust By & Through Lust v. Merrell Dow Pharm., Inc., 89 F.3d 594, 596 (9th Cir. 1996).

unreliable."35

The method used by Dr. DiFeo to arrive at opinions on biological plausibility is flawed and scientifically unreliable. She does not conduct a comprehensive and scientific review of the literature concerning asbestos and thus ignored and failed to consider scientific studies concerning the offending agent, which do not support her opinions. The Third Circuit has deemed expert opinions unreliable in situations like this, where the experts ignored facts when formulating their opinions.³⁶ Dr. DiFeo's opinions on biological plausibility should be excluded.

B. Dr. DiFeo Applies the Wrong Standard to Biological Plausibility

Dr. DiFeo bases her biological plausibility opinions on an incorrect standard requiring perfected "proof" of migration, inflammation, and/or malignant transformation, rather than a plausible mechanism. Dr. DiFeo opines as follows regarding biological plausibility:

• [C]osmetic talc has not been shown to be capable of migrating to the fimbrial ends of the fallopian tubes, from which most ovarian cancers arise. Nor has it been shown to induce any portion of the multistep malignant transformation process. The studies on which plaintiffs' experts rely have been performed on flawed cell lines, use physiologically irrelevant concentrations of talc, and, in any event, do

³⁵ *In re Bausch & Lomb, Inc. Contact Lens Solution Prods. Liab. Litig.*, 2009 WL 2760462, at *14 (D.S.C. Aug. 26, 2009).

See Elcock v. Kmart Corp., 233 F.3d 734, 756 (3d 2000); Magistrini v. One Hour Martinizing Dry Cleaning, 180 F. Supp. 2d 584, 602 (D.N.J. 2002), aff'd, 68 F. App'x 356 (3d Cir. 2003) ("in order for an expert's opinions based on evidence to be reliable and admissible, "all of the relevant evidence must be gathered, and the assessment or weighing of that evidence must not be arbitrary, but must itself be based on methods of science.")

not demonstrate neoplastic transformation.³⁷

Inflammation does not appear to play a role in ovarian cancer... To date, there is no evidence that inflammation precedes HGSC and there is no evidence of an association between chronic inflammation and the occurrence of the precursor's lesions of HGSC.³⁸

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- Several studies have attempted to demonstrate that talc can migrate through the female genital tract to the ovaries and peritoneal cavity. However, these studies were conducted under artificial conditions that do not mimic the use or perineal application of cosmetic talc, and do not conclusively show that talc can migrate to the fallopian tubes or ovaries.³⁹ (emphasis added).
- [T]o date, there have been no studies that have demonstrated that cosmetic talc induces neoplastic transformation.⁴⁰
- [O'Brien (2024)] does not alter my opinion that identification of the precise chemical agent and functional validation of this agent's effect on the transformation of normal cells via the assays outlined in Section IX [of DiFeo's Report] would be necessary to establish causality.⁴¹
- Q. ... So am I understanding correctly that contribution -- contributing is more an association and cause would be a higher bar that requires a plausible mechanism? Is that fair?
 - 4 A. Yeah, I would agree with that.⁴²
- A. ...[T]he mechanistic role of talc in ovarian cancer pathogenesis has

³⁷ DiFeo Report, Exhibit 1, at 6.

³⁸ *Id.* at 16-17.

³⁹ *Id.* at 28.

⁴⁰ Id. at 29.

⁴¹ Id. at 50.

⁴² DiFeo Dep., Exhibit 2, at 52:25-53:4.

not been shown.43

- Q. Do O'Brien and the other authors state that there is no plausible mechanism by which tale powder could cause or contribute to ovarian cancer?
 - A. Yeah, I think that's what I stated with the O'Brien paper. They do explicitly say there's no mechanism, yes. There's no known mechanism.
 - Q. Do they say there's no plausible mechanism?
 - A. I don't know exactly verbatim what they state. I think we could pull up my report, I think I do include a quote from their manuscript.
 - Q. So back to my original question. You are aware that there are numerous papers and authors that state clearly that talcum powder use contributes to the development of ovarian cancer, or are you not aware of any of the papers to that effect?

[Objection]

THE WITNESS: I am aware of the papers that have stated that. 44

- Q. And based on the evidence for mouse models and other animal studies, human studies with asbestos, would it be plausible that asbestos could cause ovarian cancer?
 - A. I believe there were some studies done with asbestos and they did not find the development of ovarian cancer. And again, I'll go back to what I mentioned earlier, when they did the studies with talc, if there was asbestos in those talc products, then they would have been informative and the mice would have developed ovarian cancer. And there was no indication of even early stages of ovarian cancer, precursor lesions, mutations, so it's -- to me, my opinion is that it's not plausible.
 - Q. It's not plausible. I'm sorry, I didn't hear you.
 - A. If there was contamination of asbestos in the talc products that were used for those in vivo studies.
 - Q. Well, my question was regarding asbestos exposure itself.

⁴³ Id. at 72:20-21.

Id. at 74:1-19.

- A. Yeah. Well, I was -- I think there were some studies done with asbestos in vivo and they did not find that the mice developed ovarian cancer.
- Q. And for that your conclusion would be that it's not plausible that asbestos exposure could cause ovarian cancer?
- A. I mean, again, I don't have all of the literature in front of me. I did not do a deep dive into that area. But from the limited literature I looked at, the data and the results did not show it. So I don't want to be -- but to date –
- Q. But my question --
- A. To date, the data I've seen, I do not think it's plausible.⁴⁵
- Q. Does something have to be conclusive to be plausible? A. Well, you need[] to have solid conclusive data to – I would -- it's semantics. It all depends on the impact -- sorry, I'm going to go back, I didn't finish your -- but I guess my mission in life is to have an impact on patients that have ovarian cancer. So plausibility all depends on the impact. If there is anything that would be plausible, and we're all about trying to find the impact, so I think many -- it doesn't -- what I'm looking for are things that are conclusive. And to answer your question, I guess your question was -- can you repeat the question again? Sorry.
 - Q. Well, I think my last question was, does something have to be conclusive to be plausible?
 - A. It doesn't have to be conclusive to be plausible, but to strengthen the palace plausibility [sic] of it, you want to conclusively confirm that it has a biological effect.⁴⁶
- Q. ... Can you direct me to any article you reviewed that states that talcum powder has no biologic effects when found in tissues or added to cells in culture?
 - A. So if you read many of the discussion for, actually, a lot of the

⁴⁵ Id. at 93:8-94:14.

Id. at 169.

papers I reference, many of them allude to the fact that they're very descriptive. And the biological implications are unclear. So I can't pinpoint all of them. But, actually, if you look, they actually all state that talc does not have a biological effect.

Q. So your opinion is the articles that we talked about today state that talcum powder has no biologic effect?

A. Yeah.47

Dr. DiFeo's use of words like "precise" and "conclusively" are at odds with the standard of biological plausibility. In her own words, "what I'm looking for are things that are conclusive," and "you want to conclusively confirm that it has a biological effect." This is simply not the standard for biological plausibility. To be clear, Plaintiffs are not required to point to a precise study to prove biological plausibility with certainty. The *Reference Manual on Scientific Evidence* describes biological plausibility as a judgment based on existing knowledge as to whether an agent plausibly could cause an adverse outcome. Michael D. Green, *et al.*, *Reference Manual on Scientific Evidence*, at 604-05 (3d Ed. 2011). Biologic plausibility lends credence to an inference of causation. *Id*.

Plaintiffs do not have the burden to prove the precise mechanism by which migration and ovarian carcinogenesis occur.⁴⁹ To require that a mechanism be

⁴⁷ *Id.* at 221.

⁴⁸ *Id.* at 169:14-15; 22.

See In re Fosamax Prod. Liab. Litig., 645 F. Supp. 2d 164, 181 (S.D.N.Y. 2009) ("[b]iologic plausibility is a judgment about whether an agent plausibly could cause a disease, based on existing knowledge about human biology and disease pathology" ... "That the mechanism remains unknown does not mean that the one proposed by the PSC's experts is not widely accepted as plausible."); see also In re Neurontin Mktg., Sales Practices, & Prod. Liab. Litig., 612 F. Supp.

proven is the incorrect standard.⁵⁰

The heightened standard that Dr. DiFeo applies is not compatible with the civil law preponderance of evidence standard or with the definition of general causation. Longstanding legal jurisprudence governs the standard of proof in a civil case. In the Third Circuit and elsewhere, a plaintiff must prove the elements of the claims by a preponderance of evidence. This holds true for evidence of causation, including expert testimony. Plaintiffs are only required to prove causation is "more

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²d 116, 149 (D. Mass. 2009) (causation was supported by biologic plausibility notwithstanding the "robust debate in the scientific community" regarding the proposed mechanism); In re Phenylpropanolamine (PPA) Prod. Liab. Litig., 289 F. Supp. 2d 1230, 1247 (W.D. Wash. 2003) ("The fact that the mechanism remains unclear does not call the reliability of the opinion into question."); In re Avandia Mktg., Sales Practices & Products Liab, Litig., 2007-MD-1871, 2011 WL 13576, at *4 (E.D. Pa. Jan. 4, 2011); Rowland v. Novartis Pharm. Corp., 149 F.Supp.3d 553, *17 (2014) (defining biological plausibility as a reasonable association between exposure and disease based on what is known about the disease); In re Fosamax Prods. Liab. Litig., 2013 WL 155869, *3 (D.N.J. April 10, 2013) (defining biological plausibility as "coherence with existing knowledge"); Bartoli v. Novartis Pharm. Corp., No. CIV.A. 3:13-0724, 2014 WL 1515870, at *7 (M.D. Pa. Apr. 17, 2014) (citing In re Pfizer Inc. Sec. Litig., No. 04CIV.9866(LTS)(JLC), 2010 WL 1047618, at *6 (S.D.N.Y. Mar. 22, 2010) (allowing testimony regarding biological plausibility "[w]here a 'hypothesis has been deemed plausible and credible in the relevant medical literature' and where it is within an expert's field of expertise based on training, experience, and history of publication."); Wicker v. Consol. Rail Corp., 371 F. Supp. 2d 702 (W.D. Pa. 2005) (defining biological plausibility as "coherence with existing knowledge"); Magistrini v. One Hour Martinizing Dry Cleaning, 180 F. Supp. 2d 584, 593 (D.N.J. 2002) (defining biological plausibility as the existence of a biologically plausible mechanism that could cause the adverse outcome of interest); In re Trasylol Prod. Liab. Litig., No. 08-MD-01928, 2010 WL 1489730, at *7-*8 (S.D. Fla. Mar. 19, 2010) (plausible biological mechanism need not be "proven" just "reliable," and using terms of "can" and "may" in regards to such does not render opinion unreliable); In re Chantix (Varenicline) Prod. Liab. Litig., 889 F. Supp. 2d 1272, 1300 (N.D. Ala. 2012) (mechanism theory deemed reliable despite "debate in the scientific community as to whether Dr. Bechara's dopamine depletion theory for Chantix can explain major depression and other neuropsychiatric injuries. . . .debate is not a basis for exclusion"); In re Hanford Nuclear Reservation Litig., No. CY-91-3015-AAM, 1998 WL 775340, at *7 (E.D. Wash. Aug. 21, 1998) (" 'biological plausibility' is not the same as 'biological certainty.'...[s]uch certainty cannot be attained.").

In re Trasylol Products Liability Litigation, 2010 WL 1489730, at *7–*8.

probable than not."51 "It would be unreasonable to conclude that the subject of scientific testimony must be 'known' to a certainty; arguably, there are no certainties in science."52

As the U.S. Supreme Court has recognized, outside the courtroom, it is a fallacy that scientists insist on certainty or near certainty in making judgments. "[M]edical professionals and researchers do not limit the data they consider to the results of randomized clinical trials or to statistically significant evidence."53 The Third Circuit is clear that "it would be unreasonable to conclude that the subject of scientific testimony must be 'known' to a 'certainty." 54

Nor will such testimony "assist the trier of fact." To the contrary, it will tend to obfuscate and confuse. Opinions that are based on the incorrect legal standard cannot be helpful to the jury and, in fact, create confusion. The very purpose of expert testimony is to aid the jury and help them understand the evidence or determine a fact in issue.⁵⁵ In its gate-keeper role, the court is tasked with balancing the admission of reliable, helpful expert testimony with the exclusion of that which

⁵¹ *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 780 (3d Cir. 1994).

⁵² Daubert, 509 U.S. at 590. See also Horan v. Dilbet, Inc., 2015 WL 5054856, *13 (D.N.J. Aug. 26, 2015) (noting the unreasonableness of subjecting scientific testimony to a certainty standard).

⁵³ Matrixx Initiatives, Inc. v. Siracusano, 563 U.S. 27, 40-42 (2011)

⁵⁴ Horan v. Dilbet, Inc., 2015 WL 5054856, *13 (D.N.J. Aug. 26, 2015) (citing Daubert, 509) U.S. at 590).

Fed. Rule Evid. 702 (a).

is misleading or confusing.⁵⁶

Expert witness testimony couched in the phrases like "conclusively confirm" is powerful and resonant.⁵⁷ And when uttered from the mouths of experts, this testimony poses a strong risk of misleading the jury to give it undue weight.⁵⁸

The "conclusive" testimony is sure to confuse the jury during deliberation because it contradicts the jury instruction that plaintiffs must prove their claims by a preponderance of the evidence. See Smith v. Ryan, 813 F.3d 1175, 1199 (9th Cir. 2016) ("If a trained psychiatrist has difficulty with the categorical 'beyond a reasonable doubt' standard, the untrained lay juror—or indeed even a trained judge—who is required to rely upon expert opinion could be forced by the criminal law standard of proof to reject commitment for many patients desperately in need of institutionalized psychiatric care."). Dr. DiFeo's opinions are unreliable and amount to nothing more than a personal, subjective standard for weighing evidence and should not be permitted.

Dr. DiFeo cannot provide coherent opinions on biological mechanism based on an incorrect standard. Her opinions should be excluded.

See Daubert, 509 U.S. at 595; In re Paoli R.R. Yard PCB Litig., 35 F.3d 717, 746 (3d Cir. 1994) ("[A]dmissibility of scientific testimony turns not only on reliability but also the possibility that admitting the evidence would overwhelm, confuse, or mislead the jury...in conducting this balancing inquiry, there is a presumption of helpfulness.").

⁵⁷ DiFeo Dep., Exhibit 2, at 169:22.

See Nve v. Mistick, 2015 WL 11511580, *5, n.3 (M.D. Pa. Feb. 24, 2015) (cautioning that experts that exude improper authority can lead juries to give their opinions more weight).

By her own admission, Dr. DiFeo has not been asked by Defendants to

provide case-specific opinions. ("Q. [W] will you be providing any case-specific

opinions on those six [bellwether] plaintiffs? A. No.").⁵⁹ As such, she has not been

deposed regarding any such opinions. Therefore, Dr. DiFeo should be precluded

from applying any of her opinions to the case-specific facts of the bellwether cases

at issue in this matter.

VII. CONCLUSION

For this and the other foregoing reasons, the Court should grant the PSC's

motion to exclude the opinions of Dr. Analisa DiFeo from this proceeding

concerning (1) potential genetic mutations as the cause of Plaintiffs' cancer, (2)

biological plausibility, and (3) case-specific opinions.

Respectfully submitted,

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59 DiFeo Dep., Exhibit 2, at 20:1-3.

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